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Editor - Captain L. B. Marshall, MC, USN (RET)

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Policy

The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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Notice

Due to the critical shortage of medical officers, the Chief, Bureau of Medicine and Surgery, has recommended, and the Chief of Naval Personnel has concurred, that Reserve medical officers now on active duty who desire to submit requests for extension of their active duty for a period of three months or more will be given favorable consideration.

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Fractures of the Hyoid Bone

Fractures of the hyoid bone are extremely rare; their rate of occurrence is only 0.002% of all fractures. Because of the anatomic structure, it is unlikely that a fracture would involve only the hyoid bone; rather the fracture of this bone is usually associated with fractures of the mandible or of the thyroid and cricoid cartilages. When a fracture of the hyoid bone does occur, therefore, the patient may be treated for associated fractures of the facial bone and the fracture of the hyoid bone may not be recognized by the oral surgeon.

The most common cause of hyoid bone fractures is direct trauma, for example, trauma incurred in an automobile accident when the chin and neck are thrust violently against the dashboard or the steering wheel. Strangulation in a suicidal attempt or in a felonious assault may account for a few cases, and muscular action during deglutition likewise causes an occasional fracture of this bone. A pathologic fracture can occur in case of tumor of the hyoid bone.

When a fracture of the hyoid bone occurs, the patient feels a distinct snap or a sensation in the upper part of the neck that a solid body is giving way; this sensation is followed by severe pain, by difficulty in swallowing,

breathing, and speaking, and in some cases by complete aphonia. If the fragments extend into the pharynx, there will be bleeding from the mouth. Coughing also is a rather frequent symptom. Increased mobility and crepitus are observed in the region over the bone; these symptoms are accompanied by severe ecchymosis, edema, and swelling. The throat and pharynx are inflamed. Emphysema, with air in the fascial planes, can push the swelling as low as the mammillary line. Palpation over the region elicits excruciating pain and tenderness.

The most common site of fracture of the hyoid bone is at the junction of the body of the bone with the greater horns. The greater horn, however, may be fractured anywhere in its extent, but the fracture usually occurs close to the tip. Fracture of the body of the bone has been reported in cases of strangulation. No cases could be found where the lesser horn was fractured.

Most authors, including those as far back as 1856, agree that there is little to be done for hyoid bone fractures as far as definitive procedures are concerned. From the cases reviewed, the treatment may be summarized as follows: (1) Fragments are brought into as close approximation as possible by intra-oral and extra-oral manipulations. A fragment which has perforated the pharynx and extends into it may have to be resected or repositioned. (2) Rest in bed and good supportive treatment are helpful; the head should be placed in a fixed position, and cold packs should be applied to the neck to reduce swelling. (3) Radical procedures are indicated when there are tumors or when persistent thyroglossal duct cysts recur. In such cases, surgical removal of the hyoid bone is indicated. (4) The time required for cessation of symptoms and establishment of fibrous union varies from 1 to 2 weeks. (J. Oral Surg., July 1954, 222 E. Superior St., Chicago 11, Ill.; L. H. Guernsey, D. D. S.)

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Diagnosis and Treatment of Cervical Spondylosis

Cervical spondylosis is a common symptom complex, usually based on osteoarthritic changes. The patient is often in the older age group. He complains of pain in the neck or in the shoulder girdle. Examination shows loss of range of motion in lateral bending or rotation of the cervical spine or both.

Roentgen survey of the cervical spine, including facet studies, can be used to confirm the diagnosis. An open mouth film should not be omitted. Treatment by physical measures is simple, efficient, and economical. The patient may treat himself at home.

The distribution of the pain characteristically is in one of two areas, depending upon the site of involvement. These are (1) over the occipital area and the distribution of the great auricular nerve, or (2) in some por-

tion of the distribution of the brachial plexus. Most commonly brachial plexus pain is in the area of the shoulder. However, chest pain, back pain, and occasionally numbness and tingling along the ulnar border of the arm may be described by the patient. Rarely, pylorospasm or cardiospasm is included.

Loss in range of motion is easily discerned by observation if the patient is asked to turn the chin to the left, the chin to the right, then to place the tip of the ear to the point of the shoulder right and left, and to hyperextend the neck. Occasionally the patient may complain of pain in the spine itself during one or several of these motions. Localized tenderness is usually elicited by palpation along the transverse process of the vertebra or sometimes over the disk space itself.

X-ray examinations usually disclose abnormalities. The greatest changes are noted at C_5-C_6, with degeneration of the disk, and osteophytes seen in the foramina. These changes at C_5 and C_6 are commonly thought to be the result of the maximal amount of lateral bending that occurs in this area. When pain of occipital distribution is the presenting complaint, there is marked degeneration of the C_2 disk space and osteophyte formation in the foramen. Rotation occurs maximally in this area.

The two most common differential diagnoses to be considered are (1) periarthritis of the shoulder and (2) coronary artery disease. The latter is ruled out by history and physical examination. The former is more often a result of the cervical spondylosis than a separate entity. It is worth while, when confronted with a periarthritis of the shoulder, to consider cervical spondylosis. Many patients develop pain in the shoulder referred from the neck. Because of the intensity of this pain, the shoulder appears to be the source of the difficulty. Voluntary splinting and immobilization can then result in fixed limitation of range in the rotator cuff of the shoulder. It is rare in older patients to find tumor of the cord or a true prolapsed disk as the etiologic factor. Additional physical findings will suggest thorough neurologic investigation of these lesions.

The home management is as follows: heat, range of motion exercises, and cervical traction.

Usually 6 to 8 weeks of intensive work on the part of the patient is required for cure. The patient should be cautioned not to discontinue treatment as soon as relief of pain has been obtained. This may occur within the first 10 days. It is essential that range be restored so that there is no recurrence of pain and disability in 2 or 3 months. (GP, June 1954, K. J. McMorrow, M. D. ; Sinai Hospital, Detroit, Mich.)

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Nuclear Herniations of the Intervertebral Disk

There is perhaps no structure in the body that reflects the aging process so early, so often, or to such a marked degree as does the intervertebral disk. This premature senescence, often advanced by the end of the third decade, together with the tremendous forces which bear upon the intervertebral disk, often causes the nucleus pulposus to herniate through its confining structures--the annulus fibrosus circumferentially and the cartilage plates above and below. These different types of nuclear herniation result in a different clinical and radiological picture and often lead to difficulty in diagnosis. Radiology offers the best, and sometimes the only, method of examining these lesions during life.

This article indicates briefly the significance of the radiological appearances resulting from extrusions of nuclear tissue from the degenerating intervertebral disk.

Herniation of the nucleus pulposus into the spongiosa of the vertebral body. --A frequent finding at autopsy is a cartilaginous nodule lying in the spongiosa of the vertebral body just behind its center, and arising by a narrow pedicle from the nucleus pulposus which has passed through a tear in the thinnest part of the cartilage plate. These mushroom-shaped extrusions of nuclear tissue, or Schmorl's nodes, are not detected radiologically until a thin layer of compact bone has been laid down around them. This important feature distinguishes them from inflammatory and neoplastic disease of the centrum. They occur chiefly in the thoracic and lumbar spine.

Herniation of the nucleus pulposus through the anterior part of the annulus. --As degeneration proceeds, nuclear material may extrude along the radial cracks which develop in the disk. Its track may be followed radiologically if it calcifies, or the site of the annular tears may be demonstrated by the "vacuum phenomenon". It is presumed that under the influence of longitudinal strains tending to separate the adjacent vertebral bodies as in hyperextension of the spine, the gases in solution in the degenerated disk tissue are liberated and may be seen lying within the disorganized disk. When the tension is removed, the gas disappears. As the nuclear tissue passes forward it may broach the anterior fibers of the annulus to impinge upon the tough anterior longitudinal ligament which usually deflects it to cause an erosion of the anterior border of the centrum. These lesions may cause pain in the back and may easily be mistaken for inflammatory or tuberculous disease.

Such anterior protrusions reach their greatest size in some types of dyschondroplasia where they cause a characteristic erosion of the centrum.

Herniation of the nucleus pulposus beneath the epiphysial ring. --Although these lesions may occur in the cervical or thoracic region, they are almost invariably confined to the lumbar spine. The sites of the nuclear herniation seem to be determined by mechanical factors, for they are found in adults in the lower lumbar spine and in children in the upper lumbar spine

in those parts of the spine which form the zenith of the spinal curve on flexion and which are, therefore, subjected to the greatest compressing force.

The effect of such a nuclear herniation has frequently been misinterpreted as a "persistent epiphysis." When the nuclear material escapes from the disk and passes through the thin cartilage plate at its junction with the epiphysial ring, the volume of the disk decreases and its function is impaired, so that the stress on the anterior vertebral margins during flexion of the spine is increased.

The symptoms produced are difficult to assess because of concomitant degenerative changes in the spine. However, there is no doubt that pain, backache, stiffness, and deformity of the spine may result.

These lesions should not be confused with marginal tuberculosis or with the calcification which occurs in the necrotic tears so commonly found in the anterior part of the annulus fibrosus.

Herniation of the nucleus pulposus through the posterior segment of the annulus.--Posterior protrusion of the intervertebral disk gives rise to a different, though now well recognized, clinical picture according to the level of the lesion. It is a result of disk degeneration and is most commonly found, therefore, at the junction of a mobile with a fixed part of the spine, where these changes most often occur. A normal disk does not prolapse.

The diagnosis of posterior disk protrusion should be a clinical one, but the site of the degeneration and therefore of the protrusion may often be indicated by plain radiography. Localizing signs include narrowing of the disk space, hypertrophic or sclerotic changes of the opposing vertebral bodies, local scoliosis, relative displacement of the vertebral body, the "vacuum phenomenon," and, indirectly, sacralization of the fifth lumbar vertebra in cases of sciatica. Signs indicating nerve root pressure may also be present. These include an alteration of the normal spinal curve and an abnormal pattern of movement. In spines that appear normal on plain radiography and in those with widespread degeneration, plain radiography offers no help in localizing the protrusion. Here, however, movement studies are often helpful in indicating the site of the lesion. It is important that this procedure should be carried out while pain is being experienced, for only then will the significant loss of movement from reflex muscle spasm be demonstrated at the level of the protrusion.

By myelography it is possible to distinguish four types of herniation--projections, intermittent prolapses, extrusions, and scarred disks.

Degeneration of the intervertebral disk with its resultant herniation of the nucleus pulposus into the structures that surround it presents many different clinical problems and difficulties in diagnosis. An understanding of the significance of the radiological manifestations of these lesions and a careful correlation with the clinical features of the case are necessary in order to make an accurate diagnosis. (J. Bone & Joint Surg., May 1954, A.C. Begg, Dunedin Hospital, Dunedin, New Zealand)

Stress Fractures of the Pubic Ramus

The occurrence of stress fractures at sites such as the metatarsals and tibiae in personnel of military installations has been reported frequently, but literature regarding stress fractures of the inferior pubic ramus has been very sparse. These fractures have been reported, however, by military physicians who have had the opportunity to observe recruits undergoing rigorous infantry training.

The precipitating factor is undoubtedly the unusual physical activity in a formerly sedentary individual. The condition is probably the result of unusual pull and strain of the adductors and the hamstring muscle groups with an associated adductor pull, more anteriorly, on the inferior pubic ramus. The recruits first notice pain in the inguinal, perineal, and adductor regions, bilaterally, with tenderness on palpation of the inferior pubic ramus.

Clinical examination reveals moderate to severe pain in the region of the ischial tuberosity and inferior ramus of the pubis. Pain is aggravated by all motion which places stress on this area. As a result of this condition, the patient walks with a definite limp. During examination, moderate to deep pressure about the inferior pubic ramus is required to elicit the pain, which differentiates the condition from bursitis in this area. The pain in a stress fracture usually persists, diminishing gradually, for a period of 4 to 6 weeks, while pain in the traumatic fracture of the same region disappears in 1 to 2 weeks.

Roentgenographic findings reveal a definite break in the continuity of the cortex. It is an irregular break in a vertical direction through both cortices, and there is calcification of a moderate degree surrounding the area. As healing progresses, the fracture fissure gradually diminishes and the calcification increases.

It is important to bear this condition in mind as it may help to avoid making a mistaken diagnosis of benign or malignant tumor and unnecessary surgical exploration. (J. Bone & Joint Surg., June 1954, Lt. W. Selakovich, MC, USAR, and Capt. L. Love, MC, USAR; U.S. Army Hospital, Fort Leonard Wood, Mo.)

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Partial Nephrectomy

Partial nephrectomy for localized renal disease is a well-established operation. Stimulated by the absolute necessity of conserving renal tissue in some cases, and by the desirability of so doing in others, many workers have made contributions to the development of this procedure. While the indications for this operation are pretty well agreed upon, there is no general agreement as to the actual technique of its performance. This article

calls attention to the most satisfactory operative technique which the authors have encountered, presents 6 cases in which this technique was used, and discusses the indications briefly.

The cases in which partial nephrectomy has become the operation of choice are those where the pathological process is limited to one area of the kidney, and in which resection of that area will not jeopardize the integrity of the remaining portion of the kidney. This operation is often indicated in the treatment of calculous disease, of hydrocalyx with or without stone, and more recently in the surgical therapy of tuberculosis localized to one part of the kidney. It has been used in the treatment of benign tumors, renal carbuncle, cortical abscess, renal infarction, simple cysts, echinococcus cysts, and renal fistulas. It is often indicated in the treatment of hydronephrosis, pyonephrosis, ureteral ectopia, or benign neoplasm when these occur in one half of a kidney with reduplicated pelves and ureters, and when the other half is normal. Finally partial nephrectomy may necessarily have to be used in the treatment of a malignant tumor in a solitary kidney.

The features of this technique are: (1) resection by blunt dissection, thus enabling individual blood vessels to be seen, clamped, and ligated individually; (2) accurate, water-tight closure of infundibula or calyces transected; (3) closure of the capsule, containing some muscle, fat, or Gelfoam, over the wound of excision; and (4) preservation of Gerota's fascia and the perinephric fat in one sheathlike piece, which is replaced to cover the kidney at the end of the operation.

The advantages of partial nephrectomy over the commonly used sharp-knife-wedge resection are: (1) more accurate and better hemostasis; and (2) less destruction of renal tissue, because it is not necessary to use mattress sutures for hemostasis or closure.

In the 6 cases in which this technique was used, the postoperative follow-up results were excellent. (J. Urol., July 1954, F. B. Clark, R. Chute, and H. A. Rudy; Veterans Administration Hospital, Boston, Mass.)

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Drug Therapy of Parkinson's Syndrome

Although toxic, neoplastic, and traumatic disturbances in certain portions of the extrapyramidal system may occasionally produce the clinical picture of Parkinsonism, the vast majority of cases of this disease fall into one of the following categories: (1) idiopathic, (2) postencephalitic, and (3) arteriosclerotic. Idiopathic Parkinsonism (also often referred to in the literature as "paralysis agitans" or "essential Parkinsonism") is a chronic progressive degenerative disease with onset usually, but not always, in late middle life. The diagnosis of arteriosclerotic Parkinsonism can usually be made more readily than that of the other two major types because of

the well-known clinical and pathological evidences of associated atherosclerosis of the central nervous system or other systems. Postencephalitic Parkinsonism may occur from a few months to several decades after an attack of acute encephalitis.

The commonly accepted drugs for the treatment of this condition are: Artane (Trihexyphenidyl), Pipanol hydrochloride, Pagitane hydrochloride, Parsidol, Panparnit, Cogentin, Hyoscine (Scopolamine), Stramonium, Bellabulgara, Vinobel, Rabellon, Benadryl (Diphenhydramine), atropine, and Thephorin (Phenindamine).

By and large, the patients who respond best to drug therapy are those in an intermediate stage of the disease. Patients with early signs of Parkinsonism, who are only slightly inconvenienced, will often object more to the side reactions or inconveniences associated with their medication than they do to the symptoms of the disease. When patients are bedridden and helpless with far-advanced Parkinsonism, the therapeutic benefits derived from the necessarily large doses of drugs are often overshadowed by the associated toxic side reactions. Those patients who are still ambulatory and yet considerably handicapped are most successfully treated with drugs.

There is no way of accurately predicting which drug will have the best therapeutic effect in the case of any individual patient. Trial and error still remain the only method of choice. No single drug can be expected to be beneficial in every case. The most suitable treatment or combination of treatments must depend upon the therapeutic requirements of the individual patient. This is so because of the different age groups, types of Parkinsonism, and tolerances in the patients. A drug that may prove a blessing to the postencephalitic patient may be harmful to the arteriosclerotic patient. One must always remember that older patients are extremely sensitive to almost any form of drug therapy. (Am. J. M. Sc., July 1954, F. R. Drake, M. D.; University of Colorado School of Medicine, Denver, Colo.)

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Thimethaphan Camphorsulfonate

Thimethaphan camphorsulfonate (Arfonad) is the latest in a series of agents and techniques designed to lower blood pressure selectively and thus to reduce bleeding during surgical operations. Attempts to control bleeding are as old as surgery itself. Vasoconstrictor substances, tourniquets, manual compression, and temporary occlusion of large vascular trunks, and deep anesthesia are only a few of the methods which have at one time or another been employed. However, only in recent years has it become possible to approach solution of this problem by the deliberate induction of circulatory hypotension, unattended by the hazards of a shocklike state. In the last few years, efforts have been concentrated upon improving both controllability and reversibility of such induced hypotension, thus increasing the over-all safety of the method.

The early enthusiasm for hypotension in anesthesia has now given ground to a more sober attitude and more stringent assessment of indications. The authors do not believe this method to be indicated in operations associated with mere marked, but not excessive, blood loss if adequate facilities for replacement therapy are available. They advocate the technique in the following types of cases:

1. Neurosurgery

Brain tumors; cerebrovascular aneurysms; operations in areas where even slight bleeding markedly interferes with visualization and with the surgeon's work; and cases of difficult exposure, because hypotension causes some shrinking of the brain and renders it more compressible.

2. Peripheral vascular surgery

Anastomosis of large blood vessels is greatly facilitated by hypotension. The method is useful in aortic grafts and transplants, coarctation operations, and operations for arteriovenous fistula.

3. Removal of highly vascular neoplasms: e. g., hypernephroma.

4. Operations associated with great blood loss: evisceration procedures, pancreatectomy, splenorenal shunts.

5. Patients with unusual blood-group combinations for whom adequate amounts of blood cannot be obtained.

6. Control of dangerous systemic hypertension and treatment of pulmonary edema due to pulmonary hypertension.

Contraindications as always, are relative, and allowances may have to be made in exceptional circumstances. The following conditions, in the authors' opinion, constitute such contraindications: (1) shock, both incipient and frank, (2) inadequate availability of fluids, (3) inability to replace blood for technical reasons, (4) inadequate skill on the part of the anesthesiologist, (5) severe visceral disease, especially of the liver and kidneys, (6) degenerative disease of the central nervous system, (7) severe cardiac disease, (8) hypovolemia, (9) uncorrected anemia, and (10) arteriosclerosis. (Arch. Surg., June 1954, M. S. Sadove, M. D., G. M. Wyant, M. D., and G. Gleave, M. D.; Stritch School of Medicine of Loyola University, Chicago, Ill.)

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Tromexan Therapy

This article reports experience with Tromexan in 135 patients and emphasizes certain apparent points of importance in the administration of the drug.

In order to determine the effects of a single dose of Tromexan from the points of view of speed and degree of induction and recovery 12 patients were given such doses, varying from 1,200 to 2,400 milligrams.

One hundred and sixteen patients with various types of intravascular clotting were placed on continuous Tromexan therapy. Included in the group were patients with thrombophlebitis, pulmonary embolism, peripheral arterial embolism, coronary thrombosis, central retinal vein thrombosis, and the postphlebitic syndrome. Included in the count of 116 are 3 patients in whom the drug was used prophylactically. In some instances heparin was used in the early part of the induction period before the Tromexan had reduced the prothrombin to the therapeutic level.

Seven patients with conditions other then thromboembolism were placed on Dipaxin (an indandione prothrombin depressant), Tromexan, and Dicumarol in succession and in that order, and maintenance therapy established in each case. Sufficient time was allowed between the withdrawal of one drug and the administration of the next to permit the prothrombin to return to pretherapy levels. This method provided for the comparison of the three drugs, particularly from the point of view of the induction periods in the same patients.

The induction and recovery periods were shorter than in the case of Dicumarol. The induction period was similar to that of a new indandione, Dipaxin, which had a longer recovery period than either Tromexan or Dicumarol.

Therapeutic prothrombin levels were readily and early attained and easily maintained for indefinite periods of time.

As noted in the case of other prothrombin depressants, significant variations occurred between the one- and two-stage prothrombin determinations and ease of control, and particularly the safety of anticoagulant therapy was considerably increased by the availability of both tests.

The observed therapeutic effect on 116 patients with thromboembolic conditions was similar to that of Dicumarol.

Bleeding occurred in the form of gross hematuria in 3 (2.4%) of the 123 patients placed on maintenance therapy. It promptly stopped when the prothrombin returned to levels above the therapeutic bracket of 10 to 30%.

In the one instance in which it was given, water soluble vitamin K (Hykinone) appeared to accelerate the return of the prothrombin level toward normal.

Dermatitis in the form of erythema and, in some instances, generalized urticarialike lesions was observed in 8 patients receiving Tromexan and was considered likely to be caused by the drug.

Toxic manifestations other than hematuria and dermatitis were not observed. (Surg., Gynec. & Obst., July 1954, J. H. Olwin, M. D. and I. A. Friedman, M. D.; Presbyterian Hospital of the City of Chicago, Chicago, Ill.)

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Furadantin

Nitrofurantoin (Furadantin) is a new chemotherapeutic agent recently accepted by the Council on Pharmacy and Chemistry of the American Medical Association for acceptance. It was detailed to the urologists recently and is now available commercially.

This drug was preceded by Furacin, made popular during World War II, as a bactericidal agent used only for local application. Furadantin is designed for oral administration and is absorbed promptly by the intestine, appearing in the urine in one-half hour after ingestion. Forty-four percent is recovered in the urine in 8 hours, only 4% being recovered in the feces. This suggests its peculiar adaptation for use in bacterial infections of the urinary tract.

A preliminary report of laboratory and clinical studies concerning the tolerance, toxicity, and effectiveness of this new drug is presented.

The only untoward symptoms noted in patients given the drug were nausea, and to a lesser degree, vomiting. Dizziness, headache, diarrhea, itching, parasthesia, often seen as side reactions with other drugs, were not observed in patients taking Furadantin.

A diffuse maculopapular eruption over the chest and arms appeared in 1 patient. This was thought to be the result of the medication, inasmuch as it disappeared when the drug was withdrawn. This was the only instance observed in the 128 patients.

Nausea appeared in 33% of the patients and vomiting in less than 1%. These symptoms were promptly relieved when the drug was withdrawn and, in some instances, when the dosage was reduced. These symptoms were also avoided or lessened by the administration of the drug with food or after meals, and the giving of alkalis. Because some patients complained of nausea after only 3 doses of a 100 mg. tablet, it is believed that the reduction of the dose is not always the answer.

No marked toxic effects were noted. Two patients took the drug for 25 and 35 days respectively, with no untoward effects. Careful examination of the blood, made before and after ingestion, revealed no changes in the blood picture. Repeated urinalyses during the course of treatment failed to reveal any appearance of albumin or red blood cells. Nonprotein nitrogen determinations, made before and after treatment, showed no appreciable change.

This preliminary study indicates that Furadantin is a useful chemotherapeutic agent in the treatment of urinary infections and will be a valuable addition, particularly useful in the stubborn Proteus infection.

Furadantin was found to be effective in the majority of strains of Escherichia coli, Bacillus proteus, Aerobacter aerogenes, Streptococcus fecalis, and Alcaligenes. It was observed to be ineffective against the Pseudomonas aeruginosa.

The study of this drug indicates the necessity of selecting the proper drug for the infecting organism, which must be identified and isolated in resistant infections. New drugs are necessary to combat the surviving strains from other medications, because these strains soon become the dominant infecting organism. (J. Urol., May 1954, G. Carroll and R. V. Brennan; St. Louis University, St. Louis, Mo.)

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Chronic Pulmonary Emphysema

Chronic pulmonary emphysema can be defined as the diffuse, progressive, obstructive, and hypoxic type of chronic emphysema in which pathologic distention of alveoli has persisted for some time. It occurs with, or as a complication of, practically all pulmonary diseases, particularly severe bronchial asthma, bronchiectasis, serious pulmonary infection, the pneumoconioses, sarcoidosis, and tuberculosis.

Early manifestations consist of cough and dyspnea on exertion. The dyspnea may be caused by such acts of exertion as coughing, sneezing, or straining. The dyspnea is accompanied by hyperventilation. Subsequently, the dyspnea becomes progressively more severe, and bronchospastic crises, resembling a paroxysm of bronchial asthma, may occur.

There is a tendency for the cough to become more troublesome, more persistent, and readily initiated by various nonspecific irritants: cold air, wind, fumes, dust, smoke, et cetera.

In the advanced stages of the disease, the above symptoms are more severe and, in addition, there is easy fatigability, dyspnea at rest, orthopnea, and cyanosis. There may be evidence of heart failure. The pulmonic second sound is usually accentuated and may be louder than the aortic second sound.

In this advanced stage of chronic pulmonary emphysema, the patient has a tendency to develop respiratory acidosis. This may occur spontaneously in the course of the disease or be induced by the inadvertent administration of high concentrations of oxygen or respiratory-depressing drugs. The patient may complain of headache, confusion, or irritability, and hypoventilation is usually noted. If the respiratory acidosis is allowed to progress, drowsiness, delirium, coma, and death follow. The basic defective mechanism which is responsible for this syndrome is inadequate alveolar ventilation with marked retention of carbon dioxide.

Correlation of certain phases of management of the patient with chronic pulmonary emphysema with the knowledge of its physiopathology was attempted. The basic defects present in the patient with chronic pulmonary emphysema were demonstrated by means of pulmonary function studies. Continuous preventive measures to control and improve these abnormal findings should be employed.

The experiences of the authors with several therapeutic measures in the treatment of chronic pulmonary emphysema and complicating manifestations are described, namely: antihistaminics, aminophylline, expectorant mixtures, antimicrobial agents, aerosols of bronchodilators, water, pancreatic desoxyribonuclease (Pancreatic Dornase), and a detergent (Alevaire), corticotropin and cortisone; and the use of venesection, digitalis, and the mercurials.

General principles are outlined for the use of oxygen, intermittent positive pressure breathing in inspiration (IPPB/I), and continuous aerosol therapy. The combined use of bronchodilator aerosols with IPPB/I is described for the routine treatment of chronic pulmonary emphysema. The use of alternating positive-negative pressure breathing (exsufflation) has proved of considerable value for the evacuation of bronchial secretions when other therapeutic agents have failed.

The hazard of the carbon dioxide intoxication syndrome and respiratory acidosis is always present in patients with chronic hypoxia secondary to chronic pulmonary emphysema or chronic pulmonary heart disease, particularly if respiratory-depressing drugs are administered preceding or along with the high concentration of oxygen. The prevention and management of respiratory acidosis is discussed.

The principal indications and use of breathing exercises, pneumoperitoneum therapy, and various forms of mechanical breathing are presented. (Am. Rev. Tuberc., June 1954, 1790 Broadway, New York 19, N. Y., M. S. Segal, A. Salomon, and J. A. Herschfus)

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Postinflammatory "Tumors" of the Lung

This article presents 4 cases with pulmonary lesions characterized by mild or no symptoms, a roentgenographic pattern of a single sharply circumscribed mass suggesting tuberculoma or neoplasm, histologic features of fibroma, neurofibroma, xanthoma, or plasma cell tumor, and historical evidence of an antecedent respiratory infection.

Brown and Johnson recently reported 3 such tumorlike lesions of the pleura, which they regarded as consequences of inflammation. They stated that similar masses of inflammatory origin had been found within the lung.

Two of the 4 cases described have been reported elsewhere, and a search of the medical literature for other examples yielded 3 additional cases. With the increasing frequency of surgical removal of circumscribed pulmonary masses, whether neoplastic or inflammatory, it may be anticipated that these supposedly rare lesions will be discovered in greater numbers.

The presenting symptoms were characteristically mild. Most of the patients had only moderate cough, which was nonproductive or slightly productive of mucopurulent sputum. Only 1 patient had chest pain. Laboratory

studies were uniformly within normal limits, and in no instance were pathogenic organisms recovered from sputum or gastric washings.

The roentgenographic appearance of these masses was not diagnostic. Most of the "tumors" were peripherally located, and only 1 was on the left side. The upper lobe was affected with approximately the same frequency as the lower. The lesions appeared as opaque, sharply circumscribed, spherical masses, with or without central cavitation. The combination of a history of pleurisy, cough, or hemoptysis with the roentgenographic appearance described usually resulted in a clinical diagnosis of pulmonary tuberculosis, and the discovery of "tumor" at operation or autopsy was usually unexpected.

The clinical features, such as antecedent respiratory infection, long duration without change in roentgenographic size of the mass, absence of recurrence following surgical removal, together with morphologic aspects, including circumscription of the mass, inflammatory features, fibrosis, and lack of mitosis, support the interpretation that these lesions are the result of antecedent infection and are not neoplasms.

The microscopic appearance of the tumors further supports the theory of their inflammatory origin.

The authors are of the opinion that all these "tumors" represent variants of a postinflammatory repair process and are similar to the tumorlike pleural masses reported by Brown and Johnson. Therefore, they may be referred to as inflammatory pseudotumors and are to be carefully differentiated, both clinically and histologically, from true neoplasms, especially sarcomas. (J. Thoracic Surg., July 1954, CDR W. O. Umiker (MC) USN; USNH, St. Albans, L. I., N. Y., and L. Iverson, M. D.: VA Hospital, Ann Arbor, Mich.)

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Leukemia in Atomic Bomb Survivors

The explosion of the atomic bombs in Japan exposed two large human populations to single brief but massive doses of ionizing irradiation and subsequently a marked increase in leukemia among survivors was reported. The present study consists of a review of all cases of leukemia referred to the Atomic Bomb Casualty Commission from 1948 to April 1952 together with 39 new cases, bringing the total to 75 established cases of leukemia occurring in atomic bomb survivors in Hiroshima and Nagasaki up to Jan. 1, 1953.

In the 5-year period from 1948 through 1952, 150 cases of leukemia were investigated by the Atomic Bomb Casualty Commission. Of these, 26 cases were excluded because of failure to meet the criteria of adequate clinical and radiation data with blood smears, bone marrow smears, or autopsy material available for study by the authors.

In all, 124 cases of leukemia were studied, 75 among exposed and 49 in nonexposed individuals. The term "exposed", as used in this report, is applied to anyone present in the cities of Hiroshima and Nagasaki during the atomic bombings. Exposure is further qualified by the factors of distance from the hypocenter, shielding, and a history of the presence or absence of complaints indicative of radiation sickness following the bombing.

Recently Furth and Upton pointed out the similarities between leukemia occurring in irradiated mice to leukemia in atomic bomb survivors. They state that in both there is ample evidence that a single massive exposure to irradiation was leukemogenic. In mice it was found that the leukemia-producing dose of irradiation was high (200 r). The observations on leukemia in survivors support the concept that gamma radiation of high energy was the chief leukemogenic agent and that a single massive dose produces leukemia in man. These data also support the premise that the leukemogenic dose of irradiation is high and that the incidence of leukemia is directly related to the amount of irradiation received. In experimental animals, leukemogenesis is influenced by age, and leukemia occurs more frequently in younger irradiated mice. However, in atomic bomb survivors, leukemia occurred in all age groups represented but it was pointed out that infants were evacuated from the cities prior to the bombings and few very young children.were exposed to atomic radiation.

The distribution of types of leukemia in this series was markedly dissimilar to the well-established pattern occurring in Western populations. In two large series of cases recently published, one from the United States and the other from Scotland, chronic lymphatic leukemia was found to occur most commonly. However, in leukemia occurring among atomic bomb survivors, chronic myelogenous leukemia was most frequently encountered (41%), with acute myelogenous leukemia second in frequency (26%). To date only 1 case of chronic lymphatic leukemia has been seen in the 75 exposed cases. In view of this myeloid preponderance, it would be tempting to postulate that the increase of myelogenous leukemia was due to the direct effect of radiation on the marrow. However, while the groups are not comparable, it was noted that chronic lymphatic leukemia was also infrequent in the nonexposed series. Inquiry made among Japanese hematologists confirmed the suspicion that chronic lymphatic leukemia is comparatively rare in Japan. In view of this fact, it seems unwarranted to ascribe a preferential myeloid leukemogenic activity to radiation. Nevertheless, these findings are certainly worthy of further investigation.

Although a greatly increased incidence of leukemia has been found, the number of cases presented in this article are, in reality, minimum figures. Cases of leukemia have undoubtedly been missed and other cases have been omitted because of the lack of adequate material to confirm the diagnosis. Some cases of leukemia in the exposed group probably occurred before 1947, and cases are still appearing among the exposed population. Another obvious fact is that among the heavily irradiated population many

potential cases of leukemia perished in the bombing or subsequently died of other causes. Ancillary information concerning the incidence of leukemia has been obtained in the adult medical survey in Hiroshima and Nagasaki where a total of 6 cases of leukemia have been found in a sample of 2,580 randomly selected adults exposed under 1,500 meters. This is an incidence of roughly 1:400. There have been no cases in an equal number of nonexposed controls of the same age and sex. Similarly, from a hematologic survey of 900 epilated individuals in Hiroshima, there have been 4 cases of leukemia, an incidence of 1:225. The data on these survey cases, together with the method of choosing the samples, are presented in another report.

Observations on the occurrence of leukemia following a single massive dose of ionizing irradiation presented a unique opportunity to estimate more accurately the latent period of radiation-induced leukemia in man. Moreover, routine blood examinations carried out on survivors resulted in the detection of very early cases of chronic myelogenous leukemia. The hematologic and biochemical studies in these preclinical cases will be reported in a subsequent article. (Blood, June 1954, R. D. Lange, M. D., W. C. Moloney, M. D., and T. Yamawaki, M. D.; Atomic Bomb Casualty Commission, Hiroshima, Japan)

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Schistosoma mansoni

The presence of Puerto Rican troops of the U. S. Army in the European Theater presented the opportunity of studying Schistosoma mansoni in a nonendemic area.

These troops passed the usual induction physical examination and were considered to be in good health. Only 1 patient in this series of 26 was admitted to the hospital with the diagnosis of schistosomiasis; the remaining 25 were admitted with such complaints as frostbite, fracture, and some medical conditions usually not related to schistosomal infestation. In all of these cases the infestation had been acquired from 2 to 14 years previously, possibly even earlier.

The diagnosis was made by the finding of ova in a stool examination or by demonstrating their presence in rectal biopsy tissue. In the early stages of this study these tests were done sometimes for clinical indication, but the majority of the examinations were requested after it became evident that schistosomiasis, if searched for, could be found with fairly high frequency. It should be noted that these young men had met certain physical qualifications and that they had completed the rigors of basic training. They did not present the picture of a severe chronic illness. They were mildly, chronically ill, and the interpretation of this condition was complicated by the frequency with which other parasites were found in the course of routine stool examinations.

Schistosomal involvement could be suspected in most of these patients following a careful system review. The fact that they had been raised in certain areas of Puerto Rico indicated the need for a careful search. The majority of these men appeared to be undernourished, underdeveloped, and mildly chronically ill. Their main complaint, difficult to elicit initially, was epigastric pain. The pain was brought on or aggravated by eating, and closely resembled the pain of peptic ulcer except for the absence of point localization. Diarrhea, though frequent, was not nearly so frequent as epigastric pain. Bloody stools were found in several patients. Shortly after this series was begun, sigmoidoscopy and rectal biopsy became part of a routine examination of Puerto Rican troops admitted to the medical service.

Treatment consisted of the intravenous administration of 0.5% tartar emetic. This was limited to a total of 1.6 gm. during the course of 30 days. Complications were frequent, and arm and shoulder pain occurred toward the end of treatment in all patients receiving this drug. In order of frequency, complications were: arthralgias, myalgias, nausea, vomiting, and hepatomegaly.

The clinical change that took place in the majority of the authors' patients was remarkable. Whereas before treatment some of these patients had had no specific complaints, the same patients when seen months later stated that they felt improved generally. They had more energy and an increased appetite. They could eat more, and had lost their former epigastric pain. The majority gained weight following treatment. They appeared much healthier.

Follow-up examinations could not be done in all patients, because some were returned home as a normal military procedure. The only significant finding noted in the immediate post-treatment stool examination was that the stool in all but 1 case became negative. As it is well known that treatment may inhibit the female from laying eggs for several months without killing her, true evaluation of the effect of treatment could not be made. To ascertain a cure, stool examinations have to be done at least 6 months following treatment, and numerous examinations must be made.

None of the patients who were examined on a 6-month follow-up had a positive rectal biopsy or stool. However, rectal biopsy covers only a minute portion of the total area of possible pathologic changes. It assumes significance only if associated with numerous negative stool examinations and the continued normal appearance of the rectal and sigmoid mucosa. In those who presented an edematous, friable, and hemorrhagic bowel wall before treatment, sigmoidoscopy after treatment showed that these lesions had disappeared. This change was definite. It could indicate that a cure was effected, but, as stated previously, it may only be assumed that treatment was effective. A long period of follow-up, at least over the course of a year, is necessary before a conclusion concerning a cure may be reached. (Ann. Int. Med., June 1954, 1st Lt. R. T. Lyons, MC, USA, and 1st Lt. J. Benson, MC, USA; 5th General Hospital, APO 154, c/o Postmaster, New York, N. Y.)

Poison Ivy, Poison Oak, and Poison Sumac

Dermatitis caused by contact with approximately 460 plants and woods has been reported in the medical literature. Of these plants, poison ivy, oak, and sumac are the most frequent offenders. Very few persons, however, are capable of recognizing these common plants and there is considerable confusion regarding the contraction and treatment of these kinds of dermatitis.

The poisonous plants belong to the genus Rhus. They are Rhus toxicodendron, or poison ivy; Rhus diversiloba, or poison oak; and Rhus venenata, or poison sumac.

Poison ivy. --This common plant is usually vinelike and climbs up trees and fences by aerial roots, but it may also be upright and shrubby. The leaves are pointed and oval, with a smooth and shiny, or slightly dull and hairy surface. They are usually about 3 inches long, the terminal leaf being longer than the 2 lateral ones of the characteristic 3-leaflet group. Poison ivy flowers grow in small clusters and are greenish white in color. The fruit, in clusters similar to berries, is white or ivory in color. The foliage becomes red or orange in autumn.

Poison oak. --There are 2 types of poison oak; both are quite similar in appearance to poison ivy. The eastern variety differs from poison ivy in that the leaves have blunt tips and are hairy and more velvety. The fruit is also hairy and yellow-green in color.

The western variety of poison oak differs from poison ivy in that it may have 5-leaflet groups, as well as the characteristic 3-leaflet groups, and both may occur on the same stem. The leaves are hairy and the foliage turns to brown and red when the fruit ripens.

Poison sumac is a tall plant or small tree. The leaves consist of 7- to 13-leaflet groups, each leaf is 2 to 5 inches long and oval, smooth above and slightly hairy on the under surface. The leaves usually meet at the center of the stalk, much like the wings of an airplane. The small greenish flowers, borne in open clusters, are followed by fruit which is similar to that of poison ivy, but somewhat more flattened in shape. The stalk is often reddish in color; the foliage turns various shades of red in the autumn.

These plants are not only botanically related, but their methods of producing dermatitis are also similar. For simplicity, poison ivy alone is discussed. The active ingredient of poison ivy is a nonvolatile oleoresin--urushiol--which can retain its noxious activity in the laboratory after drying for a 5-year period. Urushiol is found in the leaves, flowers, fruit, bark, and roots, but not in the wood, hair, or pollen of the plant.

In general, plants may produce a dermatitis through 4 actions--primary irritation, cutaneous sensitization, photosensitization, and traumatic irritation. The active ingredient, acting as the primary irritant, produces an area of dermatitis localized only to the actual area of contact much in

the same fashion as an acid or alkali burn. Acting as a cutaneous sensitizer, it will produce an area dermatitis extending beyond the area of actual contact because of a generalized allergic mechanism. A first exposure to the plants usually does not produce a dermatitis, but does produce a hypersentization of the skin to the plant. A second or subsequent exposure is then capable of producing a dermatitis which spreads beyond the actual area of contact.

Poison ivy, oak, and sumac produce dermatitis through these two mechanisms.

Poison ivy, oak, and sumac produce the same clinical picture, which may range from simple erythema or redness with itching or burning, to large blister formation with a tendency to lineal distribution. These symptoms may be associated with the more severe allergic phenomena such as hives or massive edema, especially of the soft parts. The course of the uncomplicated dermatitis is usually 5 to 7 days. Diagnosis is made by a history of exposure and an evaluation of the clinical picture. It may be confirmed in selected cases by subsequent patch testing with the plant antigen or active ingredient. This procedure is contraindicated in a hypersensitive patient and is seldom necessary to establish the diagnosis.

Treatment varies both as to method and to the degree of success. The most successful prophylactic treatment is actually avoiding contact with the noxious plants, either by not entering the area where the plants grow or by the destruction of the plants. The latter, however, is feasible only in small areas.

When entering areas where exposure is probable it is advisable to wear long clothing so as to cover as much of the skin as possible. Protective creams may be used on the remaining exposed areas; however, in the author's experience these creams frequently are not acceptable either because of esthetic factors or because they are removed by activity, body heat, or perspiration. In general prophylactic desensitization with plant extracts is not advisable except for a few selected cases. The proper evaluation of desensitization procedures has been complicated by the many variable factors that exist in this type of dermatitis.

After known exposure, the skin should be washed with soap and water. Laundry soap is preferable to bath soap because its high alkali content helps to remove the oleoresin. The skin should then be cleansed with alcohol to remove any excess oleoresin. Howell, in evaluating soap and water, ferric chloride solution, potassium permanganate solution, and sodium perborate ointment, reached the following conclusions: Soap and water was effective if used within 1 minute after exposure; a 10% solution of potassium permanganate was effective if used within 5 to 10 minutes; ferric chloride solution and sodium perborate ointment were of no value.

The use of these materials, however, may result in varying degrees of success. Clothing and other carriers such as tools can be decontaminated by soaking for 15 minutes in a 1% solution of calcium hypochlorite. Clothing should be laundered after soaking.

Treatment of the dermatitis, once it has developed, resolves itself into local and systemic methods. Locally, the skin should first be cleansed with soap and water and alcohol. Small blisters should be broken with an alcohol sponge, large blisters may require opening with a scalpel or scissors. Wet compresses soaked in Burow's solution--1:20 to 1:100 dilution--should then be applied to the affected area for 20 minutes every 4 hours until the symptoms subside. Following the compresses, a drying solution, such as calamine lotion, should be applied. Various antihistaminic lotions and creams, and hydrocortone ointment have been advocated. In the author's experience the former have not proved successful, and the latter is indicated only when allergic manifestations such as hives and edema develop.

Systemic treatment, using oral or parenteral antihistamines, has been advocated in the past to alleviate both local and general symptoms. Most authorities agree that therapeutic inoculation of plant extracts is not advisable for the active treatment of the dermatitis. ACTH solution, or depot gel by injection, or cortisone orally is indicated for those cases which are severe and in which there is serious allergic manifestation. The dose of both of these steroids should be small and they should not be continued over a long period of time. Of course, these drugs should not be given if there are any contraindications to them.

To prevent complications from secondary infections and other sensitization reactions which may result from the injudicious use of medications, lay persons should be cautioned to attempt treatment in mild cases only. Moderate or severe cases, and especially those with allergic manifestations, should be referred to a competent dermatologist for treatment. (Am. J. Nursing, July 1954, W. N. Piper, M. D. ; Georgetown University School of Medicine, Washington, D. C.)

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Solitary Circumscribed Lesions of Lung

The person who has a solitary circumscribed lesion in the lung presents a difficult diagnostic problem. In military personnel such nodules are often found on routine roentgenograms of the chest made incident to administrative physical examinations or in persons hospitalized for some unrelated condition. Many of these so-called "coin" lesions have been found in civilian practice during mass roentgenographic surveys for tuberculosis.

From a review of over 714 histologically proved cases reported it is evident that about 80% of these nodular infiltrates represent a serious disease process. Malignant tumors make up 35% of the total, and, of these, three-fourths are primary bronchogenic carcinomas; one-eighth are metastatic tumors; one-tenth are bronchial adenomas (5 to 10% eventually metas-.

tasize), and the remainder are sarcomas of various types. Forty percent of the total are inflammatory lesions, many of which may be dangerous foci of tuberculosis. Of the remaining heterogeneous lesions, some are of questionable innocence.

Ordinarily clinical investigation, including history, physical examination, roentgenograms of the chest, bronchoscopy, culture and cytological examination of the sputum, skin testing, and other procedures, has yielded few positive diagnoses. The recent trend towards early resection of all such undiagnosed pulmonary lesions has come about mainly through fear of primary bronchogenic carcinoma and hope for its theoretic cure or because of the unpredictable nature of many inflammatory lesions.

The risk attendant to surgical removal of an undiagnosed round pulmonary infiltrate must be compared with the likelihood that one of the above conditions is present. In this regard two factors appear to merit consideration, (1) the age of the patient and (2) whether or not the lesion is calcified.

The roentgenologic demonstration of calcium within a pulmonary lesion virtually excludes malignancy in the opinion of many authors. Occasionally a metastatic osteogenic sarcoma, adenoma of bronchus, malignant change in a teratoma or chondroma, or the rare instance in which a carcinoma develops around a stone in the lung is reported; however, these conditions are so rare as to hardly merit consideration. It is very important, therefore, to do complete roentgenographic studies including laminography in an attempt to demonstrate calcification within a given lesion.

The majority of nodules which calcify are tuberculomas. Definite rules regarding management of these lesions have not been formulated. Some authors believe that all should be removed, because of their tendency to break down and activate an old tuberculosis. Mitchell concluded in his study of 40 patients at the Trudeau Sanatorium that one in four of such infiltrates will lead to progression of tuberculosis if it has been treated without benefit of chemotherapy, resection, or permanent collapse. He did not state whether any of the lesions in his study were calcified, however. Mahon and Forsee demonstrated the presence of tubercle bacilli in a large percentage of noncalcified tuberculomas which had been excised and found no organisms in lesions which were calcified. Culver, Concannon, and MacManus state that a calcified tuberculoma is of no great risk to the patient and can be left in situ.

Other solitary lesions of the lung which calcify include old pyogenic abscess, nonspecific granuloma, granuloma due to coccidioidomycosis or histoplasmosis, foreign bodies, parasites, pleural plaques, and hamartomas. Probably in none of these is surgery necessary or indicated.

The cases reported in the present series fall in the relatively young age group indigenous to a military hospital, the average age of the patients being 32 years. Five had symptoms referable to the chest. In the remainder the lesion was found on routine roentgenographic examination. There were no specific preoperative diagnoses made in any of the patients despite complete clinical studies.

Experience has shown that the majority of undiagnosed solitary circumscribed intrapulmonary lesions (1) endanger the health or life of the afflicted person and (2) defy all diagnostic measures short of excision biopsy.

The recent trend in management of such pulmonary infiltrates has been to excise them as soon as possible, on the presumption that they are either early bronchogenic carcinomas or unstable inflammatory lesions.

Because thoracotomy carries a definite morbidity and mortality rate, there is a need for objective data which might spare selected patients such an operation.

Of 714 histologically proved isolated round pulmonary lesions reported in the literature, 35.7% were malignant tumors, 39.8 were of an inflammatory nature, 12.5 were benign tumors, and the remaining 12% were a heterogeneous group of conditions.

In a series of 369 patients reported, in which the age range extended to include persons under 35, the incidence of primary bronchogenic carcinoma was 0.27%, a much lower figure than has been heretofore indicated in the literature.

The incidence of malignant change in single noncalcified pulmonary nodules in persons over the age of 50 was 44 to 70%.

Calcified nodular pulmonary lesions are not malignant tumors, in all probability. If they are calcified and of an inflammatory nature, the danger of their breaking down to reactivate an infection is negligible. Therefore, the lesion which contains calcium is not of significant danger to the patient and can be left in situ in asymptomatic persons.

All undiagnosed noncalcified lesions in old persons should be excised if there are no general contraindications to surgery.

Most undiagnosed noncalcified lesions in young persons should be excised, not because they are likely to be malignant but because the majority are unstable foci of inflammatory disease.

The recent literature on solitary circumscribed lesions of the lung is reviewed. The significance of the patient's age and the factor of calcification within the lesion is discussed in relation to the need for surgical or nonsurgical management of a given patient. Data on 14 additional histologically proved cases are recorded.

From this study it appears that the person under 35 years of age who has a "coin" lesion in the lung has slight chance of having a bronchogenic carcinoma. If the lesion is calcified it is benign, in all probability, regardless of the patient's age. If it is calcified and of an inflammatory nature it is harmless to the patient if left in situ. (Arch. Int. Med., June 1954, AMA, 535 N. Dearborn St., Chicago 10, Ill.; Capt. R.C. Jones, MC, USA, and Col. E.A. Cleve, MC, USA)

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The Cruveilhier-Baumgarten Syndrome

The combination of splenomegaly and portal hypertension is frequently encountered in patients with hepatic cirrhosis or portal vein thrombosis. If these findings are observed in a patient without liver disease and if, in addition, a patent umbilical vein is demonstrated, a diagnosis of Cruveilhier-Baumgarten disease is indicated.

A comprehensive survey of previously reported cases in the literature was published in 1942 by Armstrong, Adams, Tragerman, and Townsend. They condensed the pertinent data on 52 cases, reported 2 additional patients, and included 1 case recorded in the autopsy protocols of the Los Angeles County Hospital. This brought to 55 the total known cases of Cruveilhier-Baumgarten disease.

Their analysis revealed numerous variations of the clinical and pathological description originally presented by Cruveilhier, and later by Baumgarten. It was obvious that no consistency of opinion prevailed, and many entirely different entities were being grouped as one. However, for the purpose of orderly classification and description, it was possible to consolidate the cases into one or the other of two general, but distinct groups. The first consisted of the true Cruveilhier-Baumgarten "disease." This diagnosis was based upon the following criteria: (1) splenomegaly, (2) portal hypertension, (3) patent umbilical vein, (4) abdominal venous hum, and (5) atrophic noncirrhotic liver. Six cases fulfilled these requirements in which the primary pathologic condition was believed to be hypoplasia of the portal system.

The second and largest group was designated the Cruveilhier-Baumgarten "syndrome." In this category was placed any disease, organic in nature, which caused portal hypertension and splenomegaly, and utilized the umbilical collateral circulation sufficiently to produce a venous hum on auscultation over the umbilical or ziphoid area. Armstrong and his coworkers believed that 49 of the reported cases could thus be classified. In the majority, cirrhosis of the liver was the predisposing cause of portal hypertension. They attributed the venous hum to a newly developed umbilical circulation or recanalized or incidentally patent umbilical vein.

This report not only adds 4 cases to the sparse world literature but also presents several other factors which are of interest. All of the patients fulfilled the requirement of Armstrong, to be designated as Cruveilhier-Baumgarten syndrome. In each case the venous hum was associated with dilated para-umbilical veins; no patent umbilical vein could be found. In 3 patients positive postnecrotic cirrhosis was demonstrated by histologic examination of liver biopsies taken either before or during operation.

The venous hum was heard over the umbilical area in 2 patients, and the dilated para-umbilical veins were found to terminate in that position. In the remaining 2 patients, the hum was heard at the ziphoid. The para-

umbilical vein projected through a defect in the sternum in 1 of these patients, similar to the cases reported by Gwyn and by Bruno. The hum could be obliterated only by pressure over the sternal foramina. In the other patient the hum in the ziphoid area was believed due to vascular adhesions between the liver and the under surface of the ensiform process, as was previously described by Henry.

The leukocyte counts were of interest in that preoperative eosinophilias of 8%, 7%, and 9% were found in 3 patients without evidence of other cause. This adds support to the belief of Valk and Horne that eosinophilia may be an integral part of the disease. A total leukopenia of less than 4,000 cells per cu. mm., described in 46.6% of the cases reported by Armstrong, was found in only 1 patient. Hypersplenism, however, was a universal finding.

Although the Cruveilhier-Baumgarten syndrome is a medical curiosity, it is potentially dangerous, and may be compared to any case of liver disease with portal hypertension and esophageal varices. As such, it can be managed best by the direct portacaval or splenorenal shunt. In every patient in whom the shunt was employed, the portal hypertension was alleviated and the abdominal venous hum disappeared.

The authors believe the Cruveilhier-Baumgarten syndrome is one stage in the life history of portal hypertension, regardless of cause, in which the umbilical collateral circulation is excessively employed. Its incidence is probably not as rare as the reported medical literature would indicate. Recognition of its possible presence and gentle, discriminate, and routine auscultation over the upper abdomen and ziphoid of all patients with liver disease and evidence of portal hypertension will undoubtedly lead to the identification of many additional cases. (Ann. Surg., July 1954, Maj. E. J. Jahnke, Jr., MC, USA and Lt. Col. E. D. Palmer, MC, USA: Walter Reed Army Medical Center, Washington, D. C.; and I. B. Brick, M. D.; Georgetown University Hospital, Washington, D. C.)

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Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md., giving full name, rank, corps, and old and new addresses.

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From the Note Book

1. Captain Edgar Ricen (MC) USN, attached to the U. S. Naval Mission, Rio de Janeiro, Brazil, represented the Surgeon General of the Navy at Brazil's First Medical Military Congress, which was held 11-15 July 1954 at Sao Paulo, Brazil. Commander Roald N. Grant (MC) USN also attended this Congress. Commander Grant participated in the scientific program of the Congress and delivered an address on the subject of care of casualties suffered during the Korean conflict. (TIO, BuMed)

2. Captain G. L. Parke (DC) USN, represented the Naval Dental Corps at the 42nd Annual Meeting of the Federation Dentaire Internationale held at Schevenengen, Holland, during the period 8-13 June 1954. National dental societies of 24 countries were represented and more than 1,000 delegates attended the 6-day meeting. Captain Parke is currently serving as Force Dental Officer, CINCNELM. (TIO, BuMed)

3. Nine Naval Dental Corps officers of the Fourteenth Naval District presented table clinics at the 52nd Annual Session of the Hawaii Territory Dental Society held in Honolulu, Hawaii, 23-26 June 1954. These officers were: Commander R. H. Loving, LCDRS W. L. Kostelecky and R. A. Middleton, and LTS G. H. Green, B. H. Gumm, V. L. Johnson, G. Ulrich, W. A. Munroe, and L. A. Weinberg. (TIO, BuMed)

4. The initial meeting of a permanent Armed Forces Dental Society was held at the Naval Air Facility, Port Lyautey, French Morocco, on 17 June 1954. The meeting was sponsored by the Dental Department of the Naval Air Facility which is headed by Commander Gordon L. Miller (DC) USN. Twenty-one Navy and Air Force dental officers attended the meeting which consisted of a professional program, business meeting, ladies tea, and a cocktail hour. The next meeting is scheduled for August in Rabat. Lieutenant Colonel William J. R. Oakes, USAF, will serve as sponsor and host. (TIO, BuMed)

5. Two classes totaling 87 naval dental technicians were graduated from the Naval Dental Technicians Schools, NTC, Bainbridge, Md., and NTC, San Diego, Calif., on 25 June and 30 June respectively, after having successfully completed the basic course for Prosthetic Dental Technicians. (TIO, BuMed)

6. Six refresher courses on the laboratory techniques of the serology of syphilis and 1 on the management and control of syphilis serology by the regional laboratory will be held at the Venereal Disease Research Laboratory in Chamblee, Ga., from Sept. 1954 through May 1955. (P. H. S., Dept. of H. E. W.)

7. The National Bureau of Standards has developed a remote-control system which automatically measures radiation intensities and other variables in the vicinity of an atomic explosion and transmits the data by radio to a centrally located headquarters. The system was designed at the request of the Division of Biology and Medicine of the Atomic Energy Commission for use in nuclear tests. Though developed specifically for monitoring gamma radiation and weather conditions, it can be used with a wide variety of detectors to report many types of information. Except for the control station, the entire system is battery powered and will operate unattended for long periods. (NBS, Summary Technical Report, 1866)

8. If routine simple mastectomy of the uninvolved breast were added to the procedure of radical mastectomy for unilateral cancer, the clinical course of the patient would be favorably affected in less than 1% of cases so treated. At the present time there appears to be no valid indication for "prophylactic" simple mastectomy of the uninvolved breast. (Am. J. Surg., July 1954, L. W. Guiss, M. D.)

9. A method of repair of symptomatic, chronic acromio-clavicular joint dislocation is described which uses only vital tissue as the reparative material, which leaves no foreign or avital material in the wound, and which does not require excision of any portion of the body. (Ann. Surg., July 1954, J. S. Thiemeyer, Jr., M. D.)

10. Special problems arise in the diagnosis and management of syphilis in military personnel. In the diagnostic and therapeutic management of such patients, indiscriminate institution of antisyphilitic therapy should not be made without attempting to establish or exclude the existence of a specific infection. (U. S. Armed Forces M. J., July 1954, C. R. Rein, M. D., G. H. Kostant, M. D., and Capt. J. A. Kimmelman, MC, USA)

11. Recent advances in the understanding of the pathologic and functional disturbances of the heart in renal disease leading to more rational and effective therapy are reviewed in Circulation for July 1954 by H. A. Derow, M. D.

12. Eighty cases of acute vascular injuries were studied in Korean War wounded. These consisted of 79 major artery injuries, 30 minor artery injuries, and 71 major vein injuries. (Surg., Gynec. & Obst., July 1954, Lt. Col. C. W. Hughes, MC, USA)

13. The limitations and advantages of intravenous sodium seconal are discussed in Anesthesiology for July 1954 by R. Bryce-Smith, B. M., D. A. and R. A. Hingson, M. D.

Selection of Hospital Corpsmen for Technical Training

During fiscal year 1954 it has been necessary to disenroll approximately 95 enlisted Hospital Corpsmen from the several medical technical training courses administered by the Bureau of Medicine and Surgery. The primary causative factor for this action was the student's lack of aptitude for the particular course he or she had requested. It is believed that careful screening of applicants for medical technical training by Medical Department officers can greatly decrease the number of inaptitude cases.

As medical technical specialties are closely allied to medical diagnosis and patient care, it is mandatory that only personnel of the highest caliber and who possess requisite qualifications and aptitude be selected.

Commanding Officers and Senior Medical Officers of the medical activities are requested to bring this information to the attention of all Medical Department officers under their cognizance. (ProfDiv, BuMed)

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Correspondence Course: Special Clinical Services (Blood)

The Medical Department correspondence course entitled, "Special Clinical Services (Blood)" is now available. Applications for enrollment in this course should be made on form NavPers 992, and forwarded via official channels to the Correspondence Training Division, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md.

This course is designed to acquaint Medical Department personnel with the basic principles and techniques involved in the preparation and administration of blood and blood substitutes, collection and storage of blood, preparation of plasma, and laboratory procedures including blood grouping and crossmatching.

The course consists of 8 objective type question assignments and is evaluated at 24 points for purposes of Naval Reserve promotion and nondisability retirement. (CO, NavMedSch, NNMC, Bethesda)

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BUMED INSTRUCTION 6710.8 18 June 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Defective medical and dental material; authority for disposition of

Ref: (a) Medical and Dental Materiel Bulletin, Edition No. 41 dtd 1 April 1954
(b) ManMedDept, Art. 25-21

This instruction provides authority for the disposal of material listed in paragraph IV of reference (a) considered to be defective.

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BUMED INSTRUCTION 6630.2 22 June 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Dental Prosthetic Facilities

Subj: Artificial teeth; local procurement of

This instruction outlines the policies and procedures to be employed in procurement of artificial teeth after 1 July 1954. BuMed Notice 6630 of 19 March 1954 is cancelled.

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BUMED INSTRUCTION 6710.9 30 June 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Medical and dental material; authority for action concerning

Ref: (a) Medical and Dental Materiel Bulletin, Edition No. 42
(b) Art. 25-21, ManMedDept

This instruction provides authority for: (1) The disposal of material listed in paragraph IV of reference (a) as being considered defective; and (2) the extension of potency dates of antibiotics listed in paragraph V of reference (a).

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BUMED INSTRUCTION 4220.2A 8 July 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations (Including MSTS) Having Medical/Dental Personnel Regularly Assigned

Subj: Requisitioning and receipt of medical and dental material (Cognizance Symbol "L"); instructions concerning

Encl: (1) Instructions for the Preparation and Submission of the BuMed Material Requisition (NavMed Form 4)

This instruction promulgates procedures for requisitioning material from primary and distribution stock points of the Medical and Dental Supply System. BuMed Instruction 4220.2, and Sup. No. 1 thereto are cancelled.

BUMED NOTICE 5202 8 July 1954

From: Chief, Bureau of Medicine and Surgery
To: BuMed Management Control Activities (as indicated)

Subj: Fiscal Services Work Measurement Program

Ref: (a) BuMed Inst. 5202.1

This notice is forwarded with a view to clarifying the reporting requirements with respect to subfunction 8, Payment of Vouchers, defined in enclosure (1) to reference (a).

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BUMED NOTICE 6600 9 July 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Dental Corps Personnel Regularly Assigned

Subj: Dental care for Army and Air Force personnel

Ref: (a) Art. 21-12(3), ManMedDept
(b) Art. 6-57(1)(e), ManMedDept

This notice informs all dental officers that military personnel of the Army and Air Force on active duty in localities where Army and Air Force dental services are not available are authorized to receive dental care by naval dental activities as provided by reference (a).

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BUMED NOTICE 6150 12 July 1954

From: Chief, Bureau of Medicine and Surgery
To: All Naval Hospitals

Subj: Diagnostic-Surgical Index (Cross-Index) System

Ref: (a) NavMed P-1193 (Rev. 2-49), Cross-Index System for Clinical Records

This notice modifies requirements for the diagnostic-surgical index system and discontinues the Quarterly Report of the Cross-Index System (MED 6320-3).

BUMED NOTICE 6500 12 July 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Research Progress Report (Report Symbol DD-RDB-48); submission of

Ref: (a) Art. 1-19, ManMedDept
(b) Art. 23-2, ManMedDept
(c) Art. 23-43, ManMedDept

This notice modifies the requirements of references (a), (b), and (c) regarding the submission of subject report.

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

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DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
WASHINGTON 25, D. C.

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